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ABSTRACT

This paper examines the use of the computer as a mediating device and explores its influence on the social studies curriculum. A variety of software uses are analyzed, including drill and practice, tutorials, computerized databases, and simulations. The possible effects these uses can have are examined in terms of two views of social studies education--the knowledge approach and the skills approach. It is concluded that the computer can revolutionize social studies because of the knowledge, skills, and values it can transmit, and that once choices are made as to which knowledge, skills, and values should be transmitted in social studies education, the computer can play a significant role in social studies instruction. (Author/LMM)

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INTEGRATING COMPUTER SOFTWARE INTO SOCIAL STUDIES INSTRUCTION

Paper presented to the:

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ABSTRACT

This paper examines the use of the computer as a mediating device, and explores its influence on two views of social studies instruction. It examines a variety of software uses and shows the possible effects these uses can have these conceptions of social studies instruction. The conclusion drawn is that the computer can revolutionize social studies instruction because of the knowledge, skills, and values it can transmit. The question presented to social studies specialists is: What nature, skills, and values should be transmitted in social studies education? Once this choice is made, the computer can play a significant role in social studies instruction.

BRIEF BIOGRAPHY

Gene E. Rooze is a Professor of Education at Texas Tech University in the elementary teacher education program. Dr. Rooze presently serves on the Board of Directors of the Texas Comupter Education Association. He has published several articles and four books. He is co-author of a forth-coming book entitled Educational Computing: Current Status and Future Directions and is currently writing Using Computers in Social Studies with Terry Northup.

Gene E. Rooze

Integrating Computer Software into Social Studies Instruction

This paper examines the use of the computer as a mediating device, and explores its influence on the social studies curriculum. It will examine a variety of uses of software and show the possible effects these uses can have on the knowledge, skills, and values of two views of social studies instruction.

Since its birth early in this century the overiding goal of the social studies has been the training of good citizens. But the views of how to train good citizens have varied. Presently, the two dominate views exist first, that knowledge alone produces a good citizen and second, that teaching the citizen to think will do the trick. In some curricula, textbooks, and theorectical articles these approaches seem to merge. A careful analysis, however, discloses that one view is more prominate than the other according to the author's bias. This paper will separate these approaches to illustrate the possible influences of the microcomputer.

The Knowledge Approach

Proponents of the knowledge approach to social studies believe the best way to train a citizen is to provide him knowledge about his cultural heritage and teach him the

values of the dominant culture. Advocates of the knowledge approach represent opposing ends of the educational spectrum. There is one group, the traditionalists, who promote the great literature, history, and ideas of western man as the best curriculum. On the other end of the continuum are those who represent the academic disciplines of the social sciences. They believe the proper curriculum is selected from portions of the social sciences. The common assumption of both is that knowledge alone has value, and this knowledge produces a good citizen.

Whether the source of knowledge is from national tradition or the social sciences, the knowledge approach concentrates on transmitting fixed ideas, skills, and values to students. Skills are incidental to this philosophy. They are needed primarily to aid in the transmission of the knowledge. The values are those of the dominate culture. Even the science orientation has a set of values, an example is that of observable evidence. The question we are exploring is: How will the use of the computer affect this view of social studies? Perceived advantages and disadvantages are illustrated in Table I.

TABLE I

The Influence of the Microcomputer on the Knowledge Approach to Social Studies

Advantages	Disadvantages
Drill and practice: Learn about social studies content and skills. Provides immediate knowledge of results. Can be used to supplement.	Other media less expensive, available, teachers trained in its use. Intended for use after instruction.
Tutorials: Can be used for initial instruction on concepts or skills.	Few concept oriented ones now avialable.
Computerized Databases: Rapid access to almanac, encyclopedia, and bibliographic materials. Student prepared ones possible.	Most of these materials currently available. Speed not ususal priority. Current cost $25-$65 per hour.
Simulation: Use illustrates concepts. Faster than present materials.	Incorrectly used, merely a game.

Drill and practice. The use of the computer as a drill and practice device is common. The computer works in much the same way as a workbook except that it is interactive and provides knowledge of results very quickly. Cohen (1982) found a plethora of "geography drill" programs. Such software permits students to test their knowledge against that contained in a computer program. It provides a supplement to classroom instruction.

Alesandrini (1983) reports that one of the problems with drill and practice programs is the way they are used. Drill and practice programs are intended to be used after one has been given the initial instruction. Children are often assigned this software before such instruction is provided. The result is confusion and frustration.

Tutorials. Tutorial lessons can provide basic instruction on a concept or skill. They can be used to supplement or replace classroom instruction. In her most recent review Cohen (1983) identifes 3-4 which are concept oriented.

Databases. Several telecommunication services which provide a broad range of information (EPIE, 1983) are available for use with the microcomputer. They provide encyclopedia, almanac, and bibliographic services, similar to libraries. They are fast and relatively inexpensive. Databases are excellent supplements to textbooks because

they contain up-to-date material. The use of student prepared databases are possible too.

Simulation. Simulations are based on a set of concepts and generalizations called a construct or model designed to describe real world phenomena. They can be used to provide students an understanding of a situation or event. Weible and McMahon (1982) describe the use of "The Great Depression" which is one example applicable to this view of social studies.

The potential of simulation has yet to be realized in the public schools. In the past, it took a lot of time to run a simulation because there was usually data to organize, and often statistically evaluate, before the next session could begin. The computer's speed has eliminated this problem. It has greatly simplified and diversified the use of this instructional method.

One misuse of the method must be corrected (Cohen, 1983). If students are only allowed to operate within the construct and are not permitted to understand the elements of the construct, the simulation simply becomes another game.

The use of the computer to teach the knowledge approach may change the nature of social studies in three ways. First, it can provide the student immediate knowledge

of results in drill and practice programs. This is a element missing in most social studies classrooms. Second, the interactive effects created by this method would likely make social studies more fun and even possibly more productive in teaching students the desired concepts. However, traditional media devices are more readily available and generally more accessible. Teachers are also familiar with the use of these devices so that it is more difficult to justify the computers use.

The third possible change may come about through the use of simulations. Simulations teach constructs, combinations of concepts and generalizations, which explain the real world. No other single instructional device can run simulations as well as computers. This device will place the student in a more active role. It will also require the teaching of the skills of problem solving and decision making which are not presently a part of the knowledge curriculum.

The question facing a proponent of the knowledge approach is whether problem solving and decision making are tolerable transgressions upon the fixed knowledge model.

The Skills Approach

The second popular approach is called the skills approach. Advocates of this approach believe that the best

way to train good citizens is to teach them a standardized set of skills. This set is intended to allow students to gather and organize information from which they can draw their own conclusions. The emphasis of this view is on the teaching of the processes of decision making. Advocates of this approach to social studies have recently also divided into two groups. The academic skills camp, described above, and the processes of the social sciences group. The latter believe that we need to teach the scientific approach. The essential argument separating these two groups is simply the set of skills which need to be taught.

Both groups maintain the view that present knowledge and values are useless in a changing, technological world. We need only teach future citizens ways to process information which will allow them to select from viable alternatives.

The content of the skills approach is the data of inquiry drawn from real or vicarious sources. The materials used as resources for such inquiry are newspapers, magazines, books, films, databases, telecommunication systems, videotapes, and experience. The teaching process is inquiry oriented. Knowledge is the result of inquiry. It is reviseable.

In this philosophy the building of skills is the important aspect. The philosophy's blind spot lies in the

fact that many proponents masterfully build and teach a skills sequence, but the skills are not applied to the real world. You'll also recall that there are those who desire the skills of scientific inquiry as opposed to those who promote the use of the academic skills.

Saltinski (1981) takes the first perspective and sees statistical analysis as part of the K-12 curriculum. He supports his position by quoting from both the California State Department of Education curriculum guide and the Social Studies Education Framework of the National Council for the Social Studies, which call for the use of the processes of the social sciences (the use of the scientific method and statistical analysis).

He continues to substantiate his claim by reporting the successful teaching and use of statistics at the elementary school, middle school, and senior high levels. Saltinski states, "Once statistics is justified as the "missing dimension" in social studies, the acquistion of a microcomputer is strongly warranted."

Drill and Practice. Under this philosopy the computer is used for the building of skills and more importantly the application of skills (See Table II). Cohen (1982) found few such programs. She did find several drill packages which covered narrowly defined map skills. Programs on such skills as identifying main ideas, determining cause and

effect, and identifying the author's purpose would be useful.

Tutorials. They can be used as a supplement or even replace the direct teaching of skills. This could be an extremely useful tool to provide basic instruction in those situations where children need specific skills to complete certain tasks. Cohen (1982) failed to find them in her search of social studies software. But those developed for the reading curriculum might be useful in social studies skill instruction.

Databases. Most teachers have faced the problem of obtaining up-to-date data in the classroom. Various data services are available to computer users which furnish encyclopedia, almanac, and bibliographic information. Such data would be useful especially in the application of learned skills.

Basing her ideas on the teaching of academic skills, Hunter (1984) suggests that children develop their own databases. She illustrates the use of the Personal Filing System (PFS) Published by Software Publishing Corporation designed for Apple computers (similar systems are available for other computers). Data bases can be developed on states, countries, and even class members. Deciding what data to gather, gathering it, organizing it effectively,

TABLE II
The Influence of the Computer on the Skills Approach to Social Studies

Advantages	Disadvantages
Drill and practice: Useful in developing and applying skills including statistical processes.	Few skill programs available for social studies. Intended for use after initial instruction.
Tutorials: Used to supplement skills instruction. Can be used as initial instruction. Use of some available in reading.	Unavailable at present.
Databases: Programs like Personal File System (PFS) available for student developed databases Use of statistical analysis and social sciencing.	Teacher training needed to undergird.
Simulations: Allows application of skills. Can allow testing of student strategies. Students can build and test their models. Students can ask "what-if" questions.	Simulation not a stand alone instructional device. Lead-up and analysis required.

and drawing conclusions from the stored data would provide excellent skills practice and application.

Simulation. Skills training using similuation is challenging. Imagine being able to test your decision making power against other individuals or against a computer program. Since applying skills is the name of the game in this philosophy, the analytic use of simulation produces excellent results.

An assessment of the analytic qualities of existing simulations produces differing conclusions. Nilson (1983) feels that present simulations fail in at least two respects. They do not force players to develop and test strategies; nor do they provide experiences which will allow students to practice basic skills. An article in the same journal more or less proves that "beauty is in the eye of the beholder." Friel (1983) uses the often criticized Lemonade simulation and does a masterful job of integrating several of the scientific skills: observation, data gathering, making inferences, forming hypothesis, and experimentation.

The problem may be that many educators feel that the computer is a stand alone device: they should be used without the intervention of classroom instruction. It won't work with simulation. Early research in the use of the technique indicates that students must be prepared to run a

simulation; they should then run the simulation; and then they need to discuss what they've seen. This latter step can be used to develop conclusions or to formulate testable hypotheses for a next round of play. Friel uses this method and obtains outstanding results.

The technology also exists to have students develop their own similations (Roberts 1978, 1982) (Roberts, et al., 1983). This author suggests that students build their own simulation models and use them as laboratories to ask "what if" questions.

The use of the computer in the teaching of skills should have benefical effects in at least three ways. First, the use of drill and practice software should aid in the teaching of skills. The popular direct instruction model of teaching skills calls for the type of interactive learning accomplished by the use of the computer. Second, the use of databases, either commercial or student generated, will serve the interests of both the scientific or the academic skills enthusiasts. And third, simulations are a natural part of this perspective of social studies. They require the use of learned skills. Under this perspective, knowlege is, what is learned through inquiry. The skills transmitted are either the academic or scientific skills needed for inquiry and decision making.

The central value taught is: knowledge can be discovered. The computer changes little, but it adds much to the skills approach to social studies.

This paper has examined the use of the computer as a mediating device, and explored its influence on the social studies curriculum. It has examined a variety of software uses and showed the possible effects these uses can have on two views of social studies instruction. The conclusion drawn is that the computer can revolutionize social studies instruction because of the knowledge, skills, and values it can transmit. It should be evident that the question presented to social studies specialists is: What nature, skills, and values should be transmitted in social studies education? It should be apparent that once this choice is made, the computer can play a significant role in social studies instruction.

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